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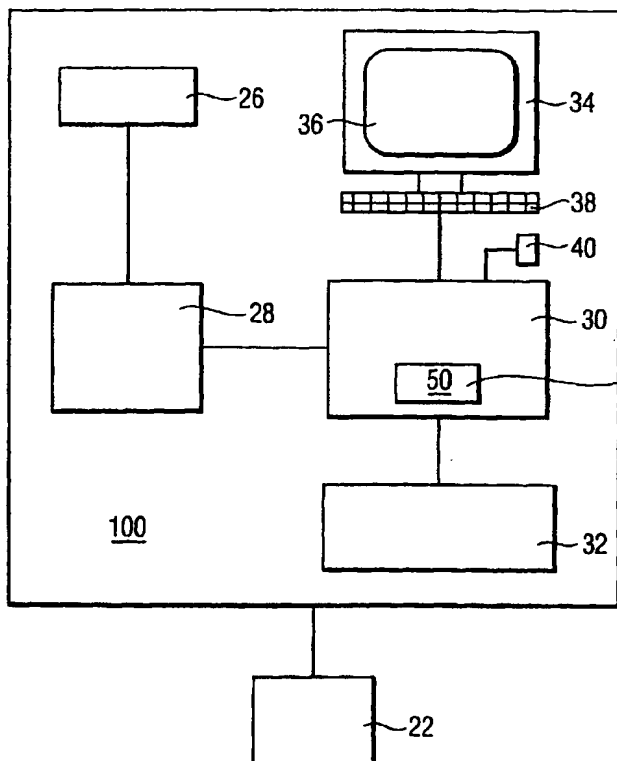
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(54) Title: METHOD AND APPARATUS FOR SELECTING THE OPERATING PARAMETERS FOR A MEDICAL IMAGING SYSTEM



(57) Abstract: A system is provided for guiding the selection of a value for each of a plurality of parameters needed to perform a procedure with a medical system (100). The system includes a first knowledge base (210) comprising procedures and treatment regimes, a second knowledge base (212) comprising patient information and therapy history, and a third knowledge base (214) comprising clinical guidelines. A domain ontology (220) provides the semantic mapping between information in the first, second, and third knowledge bases. A system configuration database (226) contains physical characteristics pertaining to the medical system and a system characteristics database (228) contains mathematical formulas and algorithms for calibrating the medical system based on the data in the system configuration database. An interference engine (224) is also provided for generating a set of parameters based on the information in the first, second, and third knowledge bases, the system configuration database, and the system characteristics database.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002169636 A1		EP 0814864 A1	07-01-1998
		IL 117128 A	17-08-1999
		JP 11502132 T	23-02-1999
		WO 9628209 A1	19-09-1996
		US 5836910 A	17-11-1998

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4835690	A	30-05-1989	NONE	
US 6205236	B1	20-03-2001	US 5999639 A	07-12-1999
			US 6650766 B1	18-11-2003
			US 2001008562 A1	19-07-2001
			US 2002081006 A1	27-06-2002
			AU 747189 B2	09-05-2002
			AU 1466899 A	16-06-1999
			CA 2309497 A1	10-06-1999
			EP 1032914 A1	06-09-2000
			JP 2001525579 T	11-12-2001
			TW 492858 B	01-07-2002
			WO 9928853 A1	10-06-1999
			US 6137898 A	24-10-2000
			US 6115488 A	05-09-2000
			US 6091841 A	18-07-2000
			US 6167146 A	26-12-2000
			AU 741337 B2	29-11-2001
			AU 9295598 A	16-03-1999
			BR 9812021 A	26-09-2000
			CA 2297986 A1	04-03-1999
			CN 1273516 A	15-11-2000
			EP 1009283 A1	21-06-2000
			JP 2003532934 T	05-11-2003
			NO 20000914 A	24-02-2000
			WO 9909887 A1	04-03-1999
			US 5996639 A	07-12-1999
US 6335979	B1	01-01-2002	JP 11235334 A	31-08-1999
EP 0609500	A	10-08-1994	US 5270530 A	14-12-1993
			EP 0609500 A1	10-08-1994
			JP 6217966 A	09-08-1994
EP 1094416	A	25-04-2001	US 6418334 B1	09-07-2002
			EP 1094416 A2	25-04-2001
			JP 2001175762 A	29-06-2001
US 2002169636	A1	14-11-2002	US 5941846 A	24-08-1999
			US 5713856 A	03-02-1998
			CA 2434322 A1	06-09-2002
			CN 1493049 A	28-04-2004
			CZ 20032608 A3	14-07-2004
			EP 1371003 A2	17-12-2003
			HU 0303338 A2	29-12-2003
			NO 20033753 A	25-08-2003
			WO 02069099 A2	06-09-2002
			AU 730203 B2	01-03-2001
			AU 7837298 A	30-12-1998
			CA 2293640 A1	17-12-1998
			EP 0991445 A1	12-04-2000
			JP 2002505598 T	19-02-2002
			WO 9856450 A1	17-12-1998
			AU 703178 B2	18-03-1999
			AU 4917296 A	02-10-1996
			CA 2215368 A1	19-09-1996
			DE 69630946 D1	15-01-2004
			DE 69630946 T2	21-10-2004

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 335 979 B1 (SETO HIROMITSU ET AL) 1 January 2002 (2002-01-01) column 1, line 60 - column 2, line 16 column 2, line 66 - column 4, line 39 column 4, line 48 - line 62 column 5, line 50 - column 6, line 12 -----	1-27
A	EP 0 609 500 A (EASTMAN KODAK COMPANY) 10 August 1994 (1994-08-10) page 4, line 10 - line 19 page 6, line 18 - line 22 page 7, line 13 - line 37 page 8, line 4 - page 11, line 51 -----	1-27
A	EP 1 094 416 A (GENERAL ELECTRIC COMPANY) 25 April 2001 (2001-04-25) page 3, line 4 - line 21 page 3, line 40 - page 4, line 43 page 4, line 50 - page 6, line 12 -----	1-27
A	US 2002/169636 A1 (EGGERS ET AL) 14 November 2002 (2002-11-14) paragraph '0010! - paragraph '0012! paragraph '0022! - paragraph '0023! paragraph '0026! - paragraph '0039! paragraph '0065! - paragraph '0070! -----	1-27

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G06F19/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, MEDLINE, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 835 690 A (GANGAROSA ET AL) 30 May 1989 (1989-05-30) column 2, line 30 - column 3, line 43 column 4, line 3 - line 68 column 5, line 15 - column 6, line 21 column 6, line 27 - column 7, line 43 column 7, line 55 - column 9, line 21 -----	1-27
X	US 6 205 236 B1 (ROGERS STEVEN K ET AL) 20 March 2001 (2001-03-20) column 2, line 20 - line 56 column 3, line 50 - column 4, line 36 column 12, line 1 - column 14, line 33 column 14, line 65 - column 16, line 50 ----- -/--	1-27



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